BRIEFER ARTICLES

THE BLACK-FRUITED CRATAEGUS OF WESTERN NORTH AMERICA

Mr. W. N. SUKSDORF has sent me an interesting series of specimens of black-fruited Crataegus collected by him in the neighborhood of Bingen, Klickitat County, western Washington, and has called my attention to some distinct variations in different individuals of these plants. He groups his plants as follows:

1 (*D*). Plants with normally twenty stamens; fruit usually in few-fruited clusters, generally not more than 8^{mm} in diameter, and ripening sometimes as early as the first of July and sometimes not until the middle of August.

2 (*X*). Plants with rather larger flowers; normally ten stamens; fruit in large drooping clusters often 1 to 1.2^{cm} in diameter and ripening in July. This form seems to be the *C. Douglasii* Lindley of English gardens.

3 (*Y*). Plants with normally ten stamens; fruit in few-fruited often erect clusters, usually 8 to 10^{mm} in diameter, and ripening from July to September. This and the following I cannot distinguish from the *X* group.

4 (*Z*). Plants with ten stamens; fruit as small as that of *D* and ripening sometimes as late as September.

The black-fruited thorn of the northwest was discovered by DAVID DOUGLAS, and in 1830 was named by LINDLEY *C. Douglasii* (*Bot. Reg. pl. 810*). The figure in the *Botanical Register* represents the flowers with ten stamens, and in a grafted plant imported from Europe, which I have cultivated for more than thirty years and which I believe to be one of the same strain as the plant formerly in the garden of the Royal Horticultural Society at Chiswick from which LINDLEY'S figure and description were made, the stamens are normally ten, although sometimes by abortion they are as few as five. The stamens of a tree of *C. Douglasii* sent to the Arnold Arboretum many years ago by MAX LEICHTLIN of Baden Baden are mostly twenty, but are sometimes reduced to twelve or fifteen. The two trees in other characters appear identical, and except in the number of the stamens I have been unable to find any character by which these two forms can be safely distinguished.

On all the specimens of this black-fruited form which I have seen the leaves vary from obovate to ovate; they are cuneate at the base, rather

coarsely serrate occasionally nearly to the base, and lobed only toward the apex. At the flowering time they are lustrous, covered above with soft white hairs most abundant on the midribs and veins, and pale and more or less villose in the axils of the veins below, later becoming subcoriaceous, dark green, and very lustrous. The flowers vary from 1.2 to 1.4^{cm} in diameter and are produced on long slender glabrous pedicels, in usually 15- or 16-flowered compound corymbs, with linear caducous bracts and bractlets. The broad calyx-tube is quite glabrous and much longer than the wide, entire, or occasionally minutely dentate lobes, acute and bright red at the apex and sparingly villose on the inner surface. The anthers are small and very pale rose color, and the styles are normally five. The fruit is black, short-oblong, crowned by the persistent calyx, with yellow, succulent, rather sweetish flesh; the nutlets, which in many of Mr. SUKSDORF'S specimens are abortive, wrinkled, and much reduced in size, are normally five, obtuse at the ends, slightly ridged on the back, and irregularly penetrated on the inner faces by shallow longitudinal cavities. The branchlets are red or orange-red and very lustrous, and the spines, which are stout and nearly straight, and generally not more than from 1 to 1.5^{cm} in length, occasionally on vigorous branches become nearly 4^{cm} long. *C. Douglasii* is the common species of the northwestern states, extending north into British Columbia, south into northern California, and eastward at least as far as Wyoming.[1]

Of the plants collected by Mr. SUKSDORF, those with twenty stamens and small fruit, placed by him in his group *D*, vary most from what I consider the type of *C. Douglasii*, and although it does not seem possible to distinguish these specifically, they certainly constitute a well-marked variety, for which I suggest the name:

CRATAEGUS DOUGLASII var. **Suksdorfii,** nov. var.—A shrub sometimes 8^{m} high, with numerous stout, erect, and spreading stems.—Banks of the Columbia River and borders of bottom lands, West Klickitat County, Washington, *W. N. Suksdorf*, 1905–1906 (nos. 4034, 4919, 5026, 5031, 5040).

Another plant in this group should also be mentioned. This is a ten-stamened plant with distinctly chestnut-colored fruits, and may be called:

CRATAEGUS DOUGLASII forma **badia,** nov. forma.—It grows on Union Flat, six miles south of Pullman, Washington, with the black-fruited *C.*

[1] Of the black-fruited Crataegus which grows at a few stations on the northern peninsula of Michigan and on some of the islands of Lake Superior, and which has been referred to *C. Douglasii*, flowers have not been collected and its true specific position cannot be determined at present.

Douglasii which, although it flowers ten days later, it otherwise resembles except in the color of the fruit. This interesting plant has been collected at different times between 1896 and 1902 by *Mr. C. V. Piper* (nos. 2358, 2454, 3599, 3810, and 3826).[2]

The following synopsis of the species of the DOUGLASAE group may aid in the determination of the species:

Anthers slightly tinged with rose color; calyx-lobes entire or minutely dentate, sparingly villose on the inner surface; fruit short-oblong to subglobose; nutlets 5, obtuse at the ends, slightly ridged on the back, irregularly penetrated on the inner face by shallow longitudinal grooves.

Leaves subcoriaceous, very lustrous, obovate to broadly ovate, coarsely serrate, usually lobed toward the apex, more or less villose while young, generally becoming glabrous; stamens 5–20, normally 10; spines numerous, usually short and stout. . . . . 1. *C. Douglasii.*

Leaves thinner, lanceolate to oblong-obovate, acute at the ends, finely serrate, not lobed, covered above while young with soft white hairs, soon glabrous; stamens 10; spines few, long and slender or wanting . . . 2. *C. rivularis.*[3]

—C. S. SARGENT, *Arnold Arboretum.*

[2] *C. Gaylussacia* Heller (Bull. South. Cal. Acad. Sci. **2**:68. 1903) is one of the black-fruited group and was collected by HELLER, August 20, 1902, at Sebastopol in Sonoma County, California. Flowers have not been seen, and I suspect that it will turn out to be one of the small-fruited forms of *C. Douglasii.* The leaves are smaller, however, and rather thinner than those of the ordinary forms of that species, and they are still slightly hairy on the upper surface at the end of August when the fruit appears to have been fully ripe.

[3] *C. rivularis* is a more southern species than *C. Douglasii* and is confined to the interior of the continent. It is most abundant on the Wasatch Mountains of Utah and ranges to southwestern Colorado and western Wyoming.